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Patentanmeldung Nr. Patent application No. Demande de brevet n°

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Ciba Specialty Chemicals Holding Inc.
Klybeckstrasse 141
4057 Basel
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Cosmetic Formulations

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Cosmetic Formulations

The present invention relates to cosmetic formulations comprising at least one pigment with an intense and saturated colour, more especially, to compositions for making up the skin, both of the face and of the human body, keratinous fibers or superficial body growths, such as the nails, eyelashes, eyebrows or hair, and the lips.

Makeup compositions, such as free or compacted powders, foundations, face powders, eyeshadows, lipsticks, products for concealing rings under the eyes, blushers, mascaras, eyeliner pencils, nail varnishes and products for making up the body are composed of an appropriate vehicle and of colouring agents of different natures intended to confer a certain colour on these compositions before and/or after their application to the skin, lips and/or superficial body growths.

These colouring agents can be lakes, inorganic or organic pigments and/or pearlescent pigments or alternatively colorants. Cosmetic scientists have available pigments of inorganic origin, such as iron oxides or mixtures of brown-yellow iron oxides, and pigments of organic origin. Inorganic pigments, in particular inorganic oxides, have the advantage of being very stable but have the disadvantage of giving rather drab and pale colours. Organic lakes have the advantage of conferring more saturated colours on the compositions but the majority is unstable with respect to light, temperature or pH. Some of these lakes also exhibit the disadvantage of staining the skin in an unsightly way after application, by escape of the colorant. Pearlescent pigments, for their part, make it possible to obtain varied but never intense colours with effects which are iridescent but which are generally fairly weak.

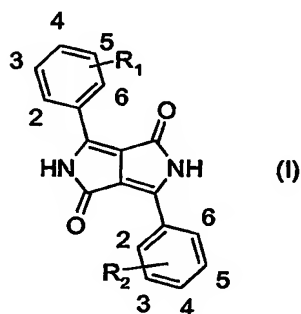
Therefore, there is still a need for further formulations having improved colour strength and saturated shades which, in addition to good tolerability, additionally exhibit outstanding fastness properties in as many areas as possible.

It has now been found that the formulations according to the invention meet those requirements.

By virtue of the pigments used according to the invention in the novel formulations, it is possible to obtain colour shades that hitherto were difficult to achieve or could not be

achieved at all. The new pigment formulations have outstanding pigmentary properties, such as lightfastness, chroma/saturation, colour strength, hiding power and dispersibility. Further, the colour is almost identical with the colour that can be achieved on the skin and nails using the novel formulations. As a result it is very readily possible to achieve precisely the desired colour shade. The novel formulations are distinguished especially by the fact that they exhibit no "bleeding" of the pigments into the skin and the nails, that is to say sharp outlines are obtained therewith on the skin and the nails themselves are not stained.

An embodiment of the invention is a cosmetic formulation comprising at least one pigment of formula (I)



wherein

R_1 signifies hydrogen; SO_3M ; linear or branched C_1 - C_{18} alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; halogen; phenyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ,

R_2 signifies hydrogen; SO_3M ; linear or branched C_1 - C_{18} alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ;

5 unsubstituted or substituted by one or more C₁-C₆alkyl, C₅-C₆cycloalkyl, C₁-C₆alkoxy, C₁-C₆thioalkyl or halogen or C₈-C₂₄aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₆alkyl, C₅-C₆cycloalkyl, C₁-C₆alkoxy, C₁-C₆thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cylcoalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S,
 10 R₄ signifies hydrogen; linear or branched C₁-C₃₀alkyl; C₃-C₃₀-alkenyl; C₃-C₁₂cycloalkyl; C₆-C₁₄aryl, which can be unsubstituted or substituted by one or more C₁-C₆alkyl, C₅-C₆cycloalkyl, C₁-C₆alkoxy, C₁-C₆thioalkyl or halogen; C₇-C₂₄aralkyl, which can be unsubstituted or substituted by one or more C₁-C₆alkyl, C₅-C₆cycloalkyl, C₁-C₆alkoxy, C₁-C₆thioalkyl or halogen or C₈-C₂₄aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₆alkyl, C₅-C₆cycloalkyl, C₁-C₆alkoxy, C₁-C₆thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cylcoalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S,
 and

15 M signifies hydrogen; a metal atom; or an unsubstituted or substituted ammonium group, wherein the pigments have a specific surface area (BET) of 15 – 200m²/g, and with the proviso that if

(i) R₁ is H or Cl in 4 position, then R₂ is not H or Cl in 4 position.

20 The specific surface area (BET) is measured according to the method developed by Brunauer, Emmet and Teller. The standardized method is described in DIN 66131 and DIN 66132.

25 Preferably, the pigments have a specific surface area (BET) of 20 – 200m²/g, even more preferred of 25 – 200m²/g.

Further preferred the pigments have a specific surface area (BET) of 15 – 170m²/g, more preferred of 15 – 150m²/g.

Further more preferred, the pigments have a specific surface area (BET) of 20 – 170m²/g, even more preferred of 20 – 150m²/g.

30 Especially preferred, the pigments have a specific surface area (BET) of 25 – 170m²/g, very especially preferred of 25 – 150m²/g.

The pigments according to the present invention have an average primary particle size of < 0.2 μm. Preferably, the pigments according to the present invention have an average primary

particle size $< 0.1\mu\text{m}$. More preferably the pigments according to the present invention have an average primary particle size $< 0.2\mu\text{m}$ and $> 0.01\mu\text{m}$, preferably $> 0.015\mu\text{m}$, even more preferably $> 0.02\mu\text{m}$.

5 Especially preferably, the pigments according to the present invention have an average primary particle size $< 0.1\mu\text{m}$ and $> 0.01\mu\text{m}$, preferably $> 0.015\mu\text{m}$, even more preferably $> 0.02\mu\text{m}$.

The primary particle size is defined as the length of the longest dimension and it is estimated by the analysis of the transmission electron microscopy.

10

The alkyl and alkoxy radicals can be linear or branched and can be chosen for example, from methyl, ethyl, n- and isopropyl, n-, sec-, tert- or isobutyl, n-, sec-, tert- or isopentyl radicals; the alkenyl radicals can be linear or branched and can be chosen for example from allyl, methallyl, 2-butenyl, 2-hexenyl, 3-hexenyl or 2-octenyl radicals.

15 The alkyl chains can also interrupted by one or more heteroatoms, such as N, O or S.

The halogen atom can preferably be Cl, Br or F.

20 Preferably M is hydrogen, sodium, potassium, lithium or an unsubstituted or substituted ammonium group.

In a preferred embodiment of the present invention R_1 signifies hydrogen; linear or branched C_1 - C_{12} alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; linear or branched C_1 -
25 C_4 alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , NH_2 , $SO_2NR_3R_4$, NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; halogen; phenyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M , wherein R_3 , R_4 and M have the same meanings as defined above.

$\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ; halogen; phenyl, which is substituted by one or more halogen, OH , OR_3 , SR_3 , NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ,
wherein R_3 , R_4 and M have the same meanings as defined above.

5

In a more preferred embodiment of the present invention R_1 signifies hydrogen; linear or branched $\text{C}_1\text{-C}_{12}$ alkyl, which can be unsubstituted or substituted by one or more halogen, OH , OR_3 , SR_3 , $\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ; linear or branched $\text{C}_1\text{-C}_4$ alkoxy, which can be unsubstituted or substituted by one or more halogen,
10 OH , OR_3 , SR_3 , $\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ; halogen; phenyl, which can be unsubstituted or substituted by one or more halogen, OH , OR_3 , SR_3 , $\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M , wherein R_3 signifies linear or branched $\text{C}_1\text{-C}_{18}$ alkyl; $\text{C}_3\text{-C}_{18}$ -alkenyl; $\text{C}_3\text{-C}_8$ cycloalkyl; $\text{C}_6\text{-C}_8$ aryl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen; $\text{C}_7\text{-C}_{18}$ aralkyl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen or $\text{C}_8\text{-C}_{18}$ aralkenyl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen; or $\text{C}_1\text{-C}_4$ alkylene- $\text{C}_4\text{-C}_8$ cylcoalkyl, wherein the ring contains at least one heteroatom selected from the group of N , O or S ,
15 R_4 signifies hydrogen; linear or branched $\text{C}_1\text{-C}_{18}$ alkyl; $\text{C}_3\text{-C}_{18}$ -alkenyl; $\text{C}_3\text{-C}_8$ cycloalkyl; $\text{C}_6\text{-C}_8$ aryl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen; $\text{C}_7\text{-C}_{18}$ aralkyl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen or $\text{C}_8\text{-C}_{18}$ aralkenyl, which can be unsubstituted or substituted by one or more $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_5\text{-C}_6$ cycloalkyl, $\text{C}_1\text{-C}_4$ alkoxy, $\text{C}_1\text{-C}_4$ thioalkyl or halogen; or $\text{C}_1\text{-C}_4$ alkylene- $\text{C}_4\text{-C}_8$ cylcoalkyl, wherein the ring contains at least one heteroatom selected from the group of N , O or S , and
20 M signifies hydrogen; a metal atom; or an unsubstituted or substituted ammonium group.

30

In a more preferred embodiment of the present invention R_2 signifies hydrogen; linear or branched $\text{C}_1\text{-C}_{12}$ alkyl, which can be unsubstituted or substituted by one or more halogen, OH , OR_3 , SR_3 , $\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ; linear or branched $\text{C}_1\text{-C}_4$ alkoxy, which can be unsubstituted or substituted by one or more halogen, OH , OR_3 , SR_3 , $\text{SO}_2\text{NR}_3\text{R}_4$, NH_2 , NR_3R_4 , COOR_3 , CONR_3R_4 , OCOR_3 or SO_3M ; halogen;

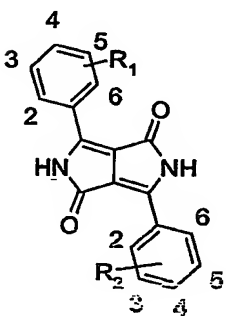
phenyl, which is substituted by one or more halogen, OH, OR₃, SR₃, SO₂NR₃R₄, NH₂, NR₃R₄, COOR₃, CONR₃R₄, OCOR₃ or SO₃M, wherein

R₃ signifies linear or branched C₁-C₁₈alkyl; C₃-C₁₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₈aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₈aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cycloalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S,

R₄ signifies hydrogen; linear or branched C₁-C₁₈alkyl; C₃-C₁₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₈aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₈aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cycloalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S, and

M signifies hydrogen; a metal atom; or an unsubstituted or substituted ammonium group.

- 20 An especially preferred embodiment of the invention is a cosmetic formulation comprising at least one pigment of formula (I)



(I)

wherein

R₂ signifies hydrogen; linear or branched C₁-C₈alkyl, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; linear or branched C₁-C₄alkoxy, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; halogen; phenyl, which is substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃,
5 wherein

R₃ signifies linear or branched C₁-C₁₂alkyl; C₃-C₁₂-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₂aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₂aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₁-C₄alkylene-morpholino; or C₁-C₄alkylene-piperidino, and

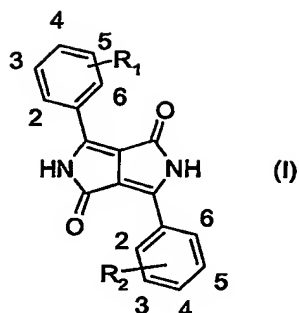
R₄ signifies hydrogen; linear or branched C₁-C₁₂alkyl; C₃-C₁₂-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₂aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₂aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₁-C₄alkylene-morpholino; or C₁-C₄alkylene-piperidino,

wherein the pigments have a specific surface area (BET) of 15 – 200m²/g, preferably of 20 – 200m²/g, more preferably preferred of 25 – 200m²/g and with the proviso that if

(i) R₁ is H or Cl in 4 position, then R₂ is not H or Cl in 4 position.

25 All preferences for the specific surface area as defined above also apply for the especially preferred embodiment of the invention.

A very especially preferred embodiment of the invention is a cosmetic formulation comprising at least one pigment of formula (I)



wherein

R_1 signifies hydrogen; linear or branched C_1 - C_6 alkyl, which can be unsubstituted or substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$; halogen; phenyl, which can be unsubstituted or substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$,

R_2 signifies hydrogen; linear or branched C_1 - C_6 alkyl, which can be unsubstituted or substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$; halogen; phenyl, which is substituted by one or more OR_3 , SR_3 , $SO_2NR_3R_4$, NR_3R_4 or $COOR_3$,

wherein

R_3 signifies linear or branched C_1 - C_8 alkyl; C_3 - C_8 alkenyl; C_3 - C_8 cycloalkyl; C_6 - C_8 aryl, which can be unsubstituted or substituted by one or more C_1 - C_4 alkyl, C_5 - C_8 cycloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 thioalkyl or halogen; C_7 - C_{12} aralkyl, which can be unsubstituted or substituted by one or more C_1 - C_4 alkyl, C_5 - C_8 cycloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 thioalkyl or halogen or C_8 - C_{12} aralkenyl, which can be unsubstituted or substituted by one or more C_1 - C_4 alkyl, C_5 - C_8 cycloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 thioalkyl or halogen; C_1 - C_4 alkylene-morpholino; or C_1 - C_4 alkylene-piperidino and

R_4 signifies hydrogen; linear or branched C_1 - C_8 alkyl; C_3 - C_8 alkenyl; C_3 - C_8 cycloalkyl; C_6 - C_8 aryl, which can be unsubstituted or substituted by one or more C_1 - C_4 alkyl, C_5 - C_8 cycloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 thioalkyl or halogen; C_7 - C_{12} aralkyl, which can be unsubstituted or substituted by one or more C_1 - C_4 alkyl, C_5 - C_8 cycloalkyl, C_1 - C_4 alkoxy, C_1 - C_4 thioalkyl or halogen; C_1 - C_4 alkylene-morpholino; or C_1 - C_4 alkylene-piperidino and

- (i) R_1 is H or Cl in 4 position, then R_2 is not H or Cl in 4 position.

All preferences for the specific surface area as defined above also apply for the very especially preferred embodiment of the invention.

5

The pigment of the invention may be transparent or opaque and can be a physical mixture or a solid solution or a mixed crystal of two or more pigments of the formula (I) or of pigments of the formula (I) with one or more of other organic pigments. The pigment of the invention may optionally be combined with other pigments for shifting the colour of the formulation or for enhancing the colour power and/or goniochromatic properties of crystal liquid or multilayer pigments having goniochromatic properties.

10

The manufacture of the diketodiarypyrrolo-pyrroles of formula (I) is disclosed in particular in the Ciba-Geigy documents EP-A-94,911, EP-A-542,669, EP-A-787,730, EP-A-787,731 and WO-A-96/08537. The specific surface area (BET) and the average primary particle size can be controlled by commonly known methods, such as growth inhibitors acid pasting, basic reprecipitation, mechanical methods, for example dry (salt) grinding (or milling), kneading, wet milling etc.

15

The pigment according to the invention may be incorporated in a cosmetic formulation, in an amount which can be easily determined by a person skilled in the art on the basis of his broad knowledge and which can in particular range from 0.01 to 50% by weight with respect to the weight of the formulation, preferably in an amount ranging from 0.5 to 25% by weight. This pigment can be also fixed on a polymer in particular by graphing or embedding.

20

Moreover, it is also possible to use one or more pigments of formula (1) together with other pigments, goniochromatic pigments and/or colourants such as are employed in cosmetic formulations. Pigments other than those of formula (I) may be present in the formulation in an amount ranging from 0 to 25% of the weight of the final formulation and preferably from 2 to 15%. Preferred inorganic pigments are, for example, titanium, zirconium or cerium oxides, as well as zinc, iron or chromium oxides and ferric blue. Preferred organic pigments are, for example, carbon black and barium, strontium, calcium and aluminium lakes. Further suitable pigments are those described in EP408498, EP953343 or WO0033795.

25

30

If desired, the pigments may also be used in the form of surface-modified pigments, for example modified by perfluoroalkyl phosphate, methylpolysiloxanes, methyl-hydrogen-poly-siloxanes or chitosan. Suitable modified pigments are, for example, those described by B. G. Hays in Am. Inkmaker, (June, 1984) 28, (Oct., 1986) 13 and (Nov., 1990) 28.

5

In addition, it is also possible to use solid solutions of the pyrrolo-[3,4-c]-pyrroles, for example solid solutions consisting of two different compounds of that type, such as are described in US Patent Specification 4 783 540, or solid solutions of pyrrolo-[3,4-c]-pyrroles and quinacridones, such as are described in US Patent Specification 4 810 304, or solid solutions
10 consisting of two different pyrrolo-[3,4-c]-pyrroles and quinacridones, such as are described in US Patent Specification 5 529 623.

15

Such optionally modified pigments are advantageously used in the form of pigment preparations in which the pigment is already in dispersed form. Suitable preparations are described, for example, in W. Herbst, K. Hunger: Industrielle organische Pigmente, VCH Verlagsgesellschaft 1995, page 92 ff.

Therefore, a further embodiment of the present invention relates to a cosmetic formulation comprising, based on the total weight of the formulation,

20

- a) from 0.0001 to 50 %, preferably from 0.0001 to 25 %, of at least one pigment of formula (I), and
- b) from 50 to 99.9999 %, preferably from 0.0001 to 20 %, of a cosmetically suitable carrier.

25

Suitable carriers for the cosmetic preparations and formulations according to the invention are the conventional materials used in such compositions.

The cosmetic preparations and formulations according to the invention may be in the form of, for example, solids, ointments, creams, emulsions, suspensions, dispersions, powders or

components, which may consist of one or more waxes, for example ozocerite, lanolin, lanolin alcohol, hydrogenated lanolin, acetylated lanolin, lanolin wax, beeswax, candelilla wax, microcrystalline wax, carnauba wax, cetyl alcohol, stearyl alcohol, cocoa butter, lanolin fatty acids, petrolatum, petroleum jelly, mono-, di- or tri-glycerides or -fatty esters that are solid at 25°C, silicone waxes, such as methyloctadecane-oxypolysiloxane and poly(dimethylsiloxy)-stearoxysiloxane, stearic acid monoethanolamine, colophane and derivatives thereof, such as glycol abietates and glycerol abietates, hydrogenated oils that are solid at 25°C, sugar glycerides and oleates, myristates, lanolates, stearates and dihydroxy stearates of calcium, magnesium, zirconium and aluminium.

10 The fatty component may also consist of a mixture of at least one wax and at least one oil, in which case the following oils, for example, come into consideration: paraffin oil, purcellin oil, perhydrosqualene, sweet almond oil, avocado oil, calophyllum oil, castor oil, sesame oil, jojoba oil, mineral oils having a boiling point of approximately from 310 to 410°C, silicone oils, 15 such as dimethylpolysiloxane, linoleic alcohol, linolenic alcohol, oleyl alcohol, cereal grain oils, such as wheatgerm oil, isopropyl lanolate, isopropyl palmitate, isopropyl myristate, butyl myristate, cetyl myristate, hexadecyl stearate, butyl stearate, decyl oleate, acetyl glycerides, octanoates and decanoates of alcohols and polyalcohols, for example of glycol and glycerol, ricinoleates of alcohols and polyalcohols, for example of cetyl alcohol, isostearyl alcohol, 20 isocetyl lanolate, isopropyl adipate, hexyl laurate and octyldodecanol.

The fatty components in such preparations in the form of sticks may generally account for up to 99.9 % by weight of the total weight of the preparation.

25 The cosmetic preparations and formulations according to the invention may additionally comprise further constituents, for example glycols, polyethylene glycols, polypropylene glycols, monoalkanolamides, undyed polymeric, inorganic or organic fillers, preservatives, UV filters or other adjuvants and additives conventionally employed in cosmetics.

30 Such further constituents are, for example, a natural or a synthetic or a semi-synthetic di- or tri-glyceride, a mineral oil, a silicone oil, a wax, a fatty alcohol, a Guerbet alcohol or an ester thereof, a lipophilic functional cosmetic active ingredient including sunscreens, or a mixture of such substances.

A lipophilic functional cosmetic active ingredient suitable for skin cosmetics, an active ingredient combination or an active ingredient extract is an ingredient or a mixture of ingredients that is approved for dermal or topical application. The following may be mentioned by way of example:

- 5 - active ingredients having a cleansing action on the skin surface and the hair. These include all substances that serve to cleanse the skin, such as oils, soaps, soapless detergents and solid substances;
- 10 - active ingredients having a deodorizing and perspiration-inhibiting action: they include antiperspirants based on aluminium or zinc salts, deodorants comprising bactericidal or bacteriostatic deodorizing substances, for example triclosan, hexachlorophene, alcohols and cationic substances, for example quaternary ammonium salts, and odour absorbers, for example [®]Grillocin (combination of zinc ricinoleate and various additives) or triethyl citrate, optionally in combination with an antioxidant, for example butyl hydroxytoluene) or ion-exchange resins;
- 15 - active ingredients that offer protection against sunlight (UV filters): suitable active ingredients are filter substances (sunscreens) that are able to absorb UV radiation from sunlight and convert it into heat. According to the desired action, the following light-protection agents are preferred: light-protection agents that selectively absorb sunburn-causing high-energy UV radiation in the range of approximately from 280 to 315 nm (UV-B absorbers) and transmit the longer-wave range of approximately from 315 to 400 nm (UV-A range), as well as light-protection agents that absorb only the longer-wave radiation of the UV-A range of from 315 to 400 nm (UV-A absorbers).
- 20

25 Suitable light-protection agents are, for example, organic UV absorbers from the class of the p-aminobenzoic acid derivatives, salicylic acid derivatives, benzophenone derivatives, dibenzoylmethane derivatives, diphenyl acrylate derivatives, benzofuran derivatives, polymeric UV absorbers comprising one or more organosilicon radicals, cinnamic acid derivatives, camphor derivatives, trianilino-s-triazine derivatives, phenylbenzimidazole sulfonic acid and salts thereof, methoxyanthranilates.

common repellents will be found in "W. Raab and U. Kindl, "Pflegekosmetik", Gustav-Fischer-Verlag Stuttgart/New York, 1991, p. 161;

- active ingredients providing protection against chemical and mechanical influences: these include all substances that form a barrier between the skin and external harmful substances, for example paraffin oils, silicone oils, vegetable oils, PCL products and lanolin for protection against aqueous solutions, film-forming agents, such as sodium alginate, triethanolamine alginate, polyacrylates, polyvinyl alcohol or cellulose ethers against the effect of organic solvents, or substances based on mineral oils, vegetable oils or silicone oils as "lubricants" against severe mechanical stresses on the skin;
- 5 - moisturizing substances: the following substances, for example, are used as moisture-controlling agents (moisturizers): sodium lactate, urea, alcohols, sorbitol, glycerol, propylene glycol, collagen, elastin or hyaluronic acid;
- active ingredients having a keratoplastic effect: benzoyl peroxide, retinoic acid, colloidal sulfur and resorcinol;
- 15 - antimicrobial agents, for example triclosan or quaternary ammonium compounds;
- oily or oil-soluble vitamins or vitamin derivatives that can be applied dermally: for example vitamin A (retinol in the form of the free acid or derivatives thereof), panthenol, pantothenic acid, folic acid, and combinations thereof, vitamin E (tocopherol), F; essential fatty acids; or niacinamide (nicotinic acid amide);
- 20 - vitamin-based placenta extracts: active ingredient compositions comprising especially vitamins A, C, E, B₂₁, B₁₂, folic acid and biotin, amino acids and enzymes as well as compounds of the trace elements magnesium, silicon, phosphorus, calcium, manganese, iron or copper;
- skin repair complexes: obtainable from inactivated and disintegrated cultures of bacteria of the bifidus group;
- 25 - plants and plant extracts: for example amica, aloe, beard lichen, ivy, stinging nettle, ginseng, henna, camomile, marigold, rosemary, sage, horsetail or thyme;
- animal extracts: for example royal jelly, propolis, proteins or thymus extracts;
- cosmetic oils that can be applied dermally: neutral oils of the Miglyol 812 type, apricot kernel oil, avocado oil, babassu oil, cottonseed oil, borage oil, thistle oil, groundnut oil, gamma-oryzanol, rosehip-seed oil, hemp oil, hazelnut oil, blackcurrant-seed oil, jojoba
- 30

oil, cherry-stone oil, salmon oil, linseed oil, cornseed oil, macadamia nut oil, almond oil, evening primrose oil, mink oil, olive oil, pecan nut oil, peach kernel oil, pistachio nut oil, rape oil, rice-seed oil, castor oil, safflower oil, sesame oil, soybean oil, sunflower oil, tea tree oil, grapeseed oil or wheatgerm oil.

- 5 The preparations in stick form are preferably anhydrous but may in certain cases comprise a certain amount of water which, however, in general does not exceed 40 % by weight, based on the total weight of the cosmetic preparation.

- 10 If the cosmetic preparations and formulations according to the invention are in the form of semi-solid products, that is to say in the form of ointments or creams, they may likewise be anhydrous or aqueous. Such preparations and formulations are, for example, mascaras, eyeliners, foundations, make-up for the cheeks, eyeshadows, or compositions for treating rings under the eyes.

- 15 If, on the other hand, such ointments or creams are aqueous, they are especially emulsions of the water-in-oil type or of the oil-in-water type that comprise, apart from the pigment, from 1 to 98.8 % by weight of the fatty phase, from 1 to 98.8 % by weight of the aqueous phase and from 0.2 to 30 % by weight of an emulsifier.

- 20 Such ointments and creams may also comprise further conventional additives, for example perfumes, antioxidants, preservatives, gel-forming agents, UV filters, colourants, pigments, pearlescent agents, undyed polymers as well as inorganic or organic fillers.

- 25 If the preparations are in the form of a powder, they consist essentially of a mineral or inorganic or organic filler, for example, talc, zinc stearate, mica, kaolin, nylon powders (in particular Orgasol), polyethylene powders, Teflon, starch, boron nitride, microspheres of copolymers, such as Expancel (Nobel Industrie), Polytrap (Dow Corning), silicone resin microbeads (Tospearl from Toshiba, for example), polyethylene powder or polyamide powder, as well as adjuvants such as binders, colourants, etc.

If the cosmetic preparations and formulations according to the invention are nail varnishes, they consist essentially of nitrocellulose and a natural or synthetic polymer in the form of a solution in a solvent system, it being possible for the solution to comprise other adjuvants, for example pearlescent agents.

5 In that embodiment, the dyed polymer is present in an amount of approximately from 0.1 to 5 % by weight.

10 The cosmetic preparations and formulations according to the invention may also be used for colouring the hair, in which case they are used in the form of shampoos, creams or gels that are composed of the basic substances conventionally employed in the cosmetics industry and comprise at least one pigment of formula as defined above.

15 The cosmetic preparations and formulations according to the invention are prepared in the conventional manner, for example by mixing or stirring the components together, optionally with heating, so that the mixtures melt.

The composition examples below are given by way of illustration and without a limiting nature.

20 The Examples which follow serve to illustrate the invention without limiting it thereto. Parts are parts by weight and percentages are percentages by weight. Temperatures are given in degrees Celsius.

25 The pigments of formula (I) as defined in Table 1 are used for the following formulation examples.

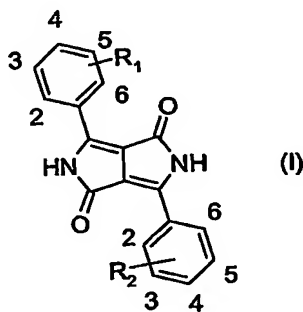
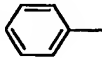

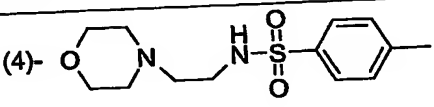


Table 1

Pigment	R ₁	R ₂
1	(4)-CH ₃	(4)-CH ₃
2	(3)-CH ₃	(3)-CH ₃
3	(4)-Cl	(4)-Cl
4	(4)-Br	(4)-Br
5	H	(4)-CH ₃
6	(4)-OCH ₃	(4)-OCH ₃
7	(4)-F	(4)-F
8	(3)-OCH ₃	(3)-OCH ₃
9	(3)-Br	(3)-Br
10	(4)-OCH ₂ CH ₃	(4)-OCH ₂ CH ₃
11	(3)-Cl	(3)-Cl
12	(4)-C(CH ₃) ₃	(4)-C(CH ₃) ₃
14	H	(4)-CN
15	H	(4)-OCH ₃
16	(3)-Cl	(4)-Cl
17	(4)-Cl	(4)-OCH ₃
18	(4)-Cl	(4)-CH ₃
19	(4)- 	(4)-Cl
20	(4)-CH(CH ₃) ₂	(4)-CH(CH ₃) ₂
21	(2)-Cl	(2)-Cl
22	H	(3)-Cl
23	H	(2)-Cl
24	H	(4)-Br
25	H	(3)-Et
26	H	(4)-F

Pigment	R ₁	R ₂
32	(4)-Cl	(3)-CH ₃
33	(4)-Cl	(3)-Br
34	(4)-Cl	(4)-C(CH ₃) ₃
35	(4)-OCH ₃	(4)-CH ₃
36	(2)-OCH ₃	(2)-OCH ₃
37	H	(3)-CH ₃
38	(3)-Cl	(4)-CH ₃
39	(3)-CH ₃	(4)-CH ₃
40	(2)-CH ₃	(2)-CH ₃
41	H	(2)-OCH ₃
42	(4)-Cl	(3)-OCH ₃
43	(4)-Cl	(4)-F
44	(3)-F	(3)-F
45	H	(3)-F
46	(4)-Cl	(4)-Br
47	(4)-C(CH ₃) ₃	(3)-CH ₃
48	(4)-S(CH ₂) ₉ CH ₃	(4)-S(CH ₂) ₉ CH ₃
49	(4)-Cl	(2)-Cl
50	H	(4)-OCH(CH ₃) ₂
51	(4)-Cl	(3)-OCH(CH ₃) ₂
52	(4)- 	(4)- 

Example: 1: Cheek Colour

Number	Ingredients	Amount [%]
1	Sericite PHN	58.67
2	Zinc Stearate	4.55
3	Magnesium Carbonate NF Light	2.00
4	Boron Nitride	5.50
5	Methyl Paraben	0.20
6	Red Iron Oxide	2.44
7	Pigment 1	1.85

Number	Ingredients	Amount [%]
8	D&C Red 30 (Talc Blend)	3.76
9	Yellow Iron Oxide	1.36
10	Octyl Palmitate	5.00
11	Colorona Russet	8.73
12	Timica Sparkle	4.77
13	Duochrome RY	1.17

Ingredients 1 – 9 are added and mixed uniformly.

Ingredient 10 is sprayed into the phase and mixed until the phase is completely wetted out and uniform.

- 5 Ingredients 11 - 13 are added and the composition is mixed until uniform. Afterwards the mixture is passed through a micropulverizer.

A red cheek colour having excellent in-use properties is obtained in that manner.

Example 2: Cheek Colour

Number	Ingredients	Amount [%]
1	Alpine Talc 141	60.80
2	Zinc Stearate	5.00
3	Kaolin	2.00
4	Boron Nitride	5.00
5	Methyl Paraben	0.20
6	Pigment 1	2.21
7	FD&C Yellow 5 Aluminum	0.57
8	Ultramarine Violet	1.46
9	Manganese Violet	3.73
10	Octyl Palmitate	5.00
11	Cloisonne Gold	7.75
12	Cloisonne Red	4.48
13	Pigment Orange 100	1.20

Example 3: Powder Eyeshadow

Number	Ingredients	Amount [%]
1	Alpine Talc 141	57.58
2	Zinc Stearate	5.26
3	Boron Nitride	5.26
4	Propyl Paraben	0.32
5	Sericite PHN	10.53
6	Pigment 1	2.63
7	Ferric Ferrocyanide	0.53
8	Octyl Palmitate	5.26
9	Duochrome BR	12.63

- Ingredients 1 – 7 are added and mixed uniformly. Ingredient 8 is sprayed into the phase and mixed until the phase is completely wetted out and uniform. Ingredient 9 is added and the composition is mixed until uniform. Afterwards the mixture is passed through a micropulverizer.

Powder eyeshadow having excellent in-use properties is obtained in that manner.

Example 4: Eyeshadow Formulation

Number	Ingredients	Amount [%]
1	Sericite PHN	57.59
2	Zinc Stearate	5.26
3	Boron Nitride	5.26
4	Propyl Paraben	0.32
5	Wet Ground Mica PGM-3	5.26
6	Nylon-12	5.26
7	Pigment 1	2.63
8	Ferric Ferrocyanide	0.53
9	Octyl Palmitate	5.26
10	Duochrome BR	12.63

The formulation is prepared in analogy of Example 3.

A powder eyeshadow having excellent in-use properties is obtained in that manner.

Example 5: A waterproof eyeshadow cream having excellent in-use properties has the following composition:

Number	Ingredients	Amount [%]
1	acrylic acid/butyl acrylate/methyl methacrylate copolymer, 30 % emulsion	10.00
2	Pigment 1	10.00
3	mineral oil	8.50
4	glycerol	5.50
5	microcrystalline wax	3.00
6	stearic acid	3.00
7	ultramarine blue	2.00
8	sorbitan monostearate	1.50
9	TEA	1.50
10	lanolin	1.00
11	methyl-hydroxypropylcellulose	0.50
12	preservative	qs
13	water	to 100

Example 6: A waterproof eyeshadow gel having excellent in-use properties has the following composition:

5

Number	Ingredients	Amount [%]
1	propylene glycol	5.00
2	sucrose distearate	3.00
3	isopropyl palmitate	3.00
4	mineral oil	3.00
5	lanolin oil	2.00
6	synthetic hectorite	2.00
7	di-Na-EDTA	0.02

Example 7: Face powder

Number	Ingredients	Amount [%]
1	Alpine Talc 141	33.97
2	Wet Ground Mica PGM-3	5.00
3	Zinc Stearate	5.00
4	Nylon-12	3.00
5	Aluminum Starch Octenylsuccinate	25.00
6	Boron Nitride	2.00
7	Silica	10.00
8	Methyl Paraben	0.25
9	Propyl Paraben	0.10
10	Imidazolidinyl Urea	0.30
11	Magnesium Carbonate NF Light	1.00
12	TiO ₂ pigment	6.00
13	Pigment 1	0.08
14	Yellow Iron Oxide	1.10
15	Black Iron Oxide	0.10
16	Octyl Palmitate	3.00
17	Lanolin Oil	3.00
18	Tocopheryl Acetate	0.10
19	Mineral Oil	1.00

- Ingredients 1 – 15 are added and mixed uniformly. The mixture is passed through a micropulverizer. After mixing, ingredients 16 – 19 are sprayed into the phase and mixed until the phase is completely wetted out and uniform. Afterwards the mixture is passed through a micropulverizer.

A face powder having excellent in-use properties is obtained in that manner.

Example 8: Powder Foundation

Number	Ingredients	Amount [%]
1	Alpine Talc 141	50.3
2	Sericite PHN	21.71
3	Zinc Stearate	6.12
4	Kaolin	1.02
5	Silica	1.02
6	Boron Nitride	

Number	Ingredients	Amount [%]
7	Methyl Paraben	0.31
8	Magnesium Carbonate NF Light	1.53
9	Pigment 1	1.08
10	Black Iron Oxide	0.56
11	Yellow Iron Oxide	7.03
12	TiO ₂ pigment	0.90
13	Octyl Palmitate	4.08
14	Lanolin Alcohol	1.02

Ingredients 1 – 12 are added and mixed uniformly. The mixture is passed through a micropulverizer. After mixing at elevated temperature, ingredients 13 and 14 are sprayed into the phase and mixed until the phase is completely wetted out and uniform. Afterwards the mixture is passed through a micropulverizer.

5

A powder foundation having excellent in-use properties is obtained in that manner.

Example 9: Face Powder

Number	Ingredients	Amount [%]
1	Alpine Talc 141	75.8
2	Sericite PHN	9.62
3	Zinc Stearate	5.15
4	Magnesium Carbonate NF Light	0.10
5	Nylon-12	1.01
6	Silica	1.01
7	Pigment 1	0.84
8	Yellow Iron Oxide	2.53
9	Black Iron Oxide	0.51
10	Methyl Paraben	0.20
11	Propyl Paraben	0.10
12	Octyl Palmitate	1.01

the phase is completely wetted out and uniform. Afterwards the mixture is passed through a micropulverizer.

A face powder having excellent in-use properties is obtained in that manner.

5 **Example 10:** A foundation of the following composition is used:

Number	Ingredients	Amount [%]
1	Cutina KD 16	0.80
2	Cutina FS 45	1.40
3	Lanette 16	1.00
4	Arlacel 60	0.20
5	paraffin oil pearl.	8.00
6	isopropyl stearate	6.00
7	Myritol 318	4.00
8	Softisan 100	2.00
9	Abil 100	0.20
10	Controx KS	0.05
11	Uniphen P 23	1.00
12	talcum Pharma G	5.00
13	titanium white	6.00
14	Pigment 1	1.50
15	dematerialized H ₂ O	56.10
16	propylene carbonate	0.10
17	Veegum ultra	0.80
18	glycerol 87 %	5.00
19	Natrosol 250 HHR	0.30
20	TEA C, pure	0.55

Substances 1 - 11 are melted together, and substance 12 is dispersed in that mixture. The mixture is then heated to from 75 to 80°C.

- 10 Separately therefrom, substances 15 and 16 are mixed, and substance 17 is dispersed homogeneously in that mixture. Substance 19 is then distributed homogeneously in that mixture; once the increase in swelling has ceased, substance 18 is stirred in and the whole mixture is heated to from 75 to 80°C.

The second mixture is then added to the first mixture, with intensive stirring, substance 20 is then stirred in homogeneously, and the resulting emulsion is stirred until it has cooled to room temperature. Substances 13 and 14 are then dispersed in by means of a dissolver, and the resulting make-up is then passed through a triple roller.

- 5 There is obtained a red make-up having excellent in-use properties and an intense bright red colour of outstanding fastness to light.

Example 11: A powder foundation of the following composition is used

Number	Ingredients	Amount [%]
Phase A		
1	Talc	48.20
2	Mica and Methicone (Toshiki Sericite OS-61D)	34.00
3	Pigment 1	5.00
4	Kaolin	6.00
5	Zinc Stearate	3.00
6	Methyl Paraben	0.20
7	Propyl Paraben	0.10
Phase B		
8	Dicaprylyl Maleate	3.00
9	PEG-400 Diisostearate	0.50

- 10 Phase A is put into high shear mixer and Mixed until colour are completely extended. All ingredients of phase B are put together and mixed until Phase B is fully homogenous.

Phase B is sprayed to Phase A with high mixing.

The united Phases are mixed fully homogenous by a high shear mixer.

There is obtained a powder foundation having excellent in-use properties and an intense

- 15 bright red colour of outstanding fastness to light.

Number	Ingredients	Amount [%]
3	FD&C Blue 1 B3016 Aluminum Lake	0.25
4	FD&C Yellow 5 B3014 Aluminum Lake	0.20
5	TiO ₂ pigment	3.00
6	Cosmetic Yellow C33-8073	1.00
7	Red Iron Oxide 3080	3.20
8	Castor Oil LISP	31.40
9	White Beeswax	2.00
10	Performalene 400	4.00
11	Camauba Wax	2.00
12	Candelilla Wax	5.00
13	Caprylic/Capric Triglyceride	8.00
14	Octyl Methoxycinnamate	7.50
15	Lanolin Oil	2.00
16	Stearyl Alcohol	2.00
17	Jobba Oil	6.00
18	Shea Butter	2.00
19	Cetyl Palmitate	3.00
20	Propyl Paraben	0.20
21	Tocopheryl Acetate	0.10
22	Lipstick Fragrance	0.75

- Ingredients 8 – 21 are mixed at a temperature of 75 – 80°C until the phase is uniform. Ingredients 1 - 7 are mixed together and grinded in a ball mill or 3-roll mill. Afterwards ingredients 1 – 7 are added to the mixture of ingredients 8 – 21. The mixture is mixed at a temperature of 75 – 80°C. Afterwards Ingredient 22 is added and the mixture is mixed at a temperature of about 70°C.
- 5 A lipstick having excellent in-use properties is obtained in that manner.

Example 13: Lipstick Formulation

Number	Ingredients	Amount [%]
1	Ozokerite Wax	4.02
2	Camauba Wax	3.76
3	Candelilla Wax	4.74
4	White Beeswax	7.98
5	Myristyl Lactate	5.37

Number	Ingredients	Amount [%]
6	Octyl Palmitate	3.63
7	Shea Butter	1.00
8	Isopropyl Palmitate	3.45
9	Castor Oil USP	41.62
10	Propyl Paraben	0.20
11	Isopropyl Isostearate	2.55
12	Castor Oil USP	10.00
13	Pigment 1	2.74
14	TiO ₂ pigment	3.22
15	Red Iron Oxide 3080	1.23
16	FD&C Yellow 5 B3014 Aluminum Lake	1.78
17	FD&C Blue 1 B3016 Aluminum Lake	0.21
18	Cloisonne Gold	2.00
19	Lipstick Fragrance	0.50

- Ingredients 1 – 11 are mixed at a temperature of 75 – 80°C until the phase is uniform. Ingredients 12 - 18 are mixed together and grinded in a ball mill or 3-roll mill. Afterwards ingredients 12 – 18 are added to the mixture of ingredients 1 – 11. The mixture is mixed at a temperature of 75 – 80°C. Afterwards Ingredient 19 is added and the mixture is mixed at a temperature of about 70°C.

A lipstick having excellent in-use properties is obtained in that manner.

Example 14: A lipstick base of the following composition is used:

Number	Ingredients	Amount [%]
1	cera alba	11.40
2	candelilla wax	8.10
3	carnauba wax	3.80
4	Lunacera M	6.00
5	castor oil	75.50

Number	Ingredients	Amount [%]
11	Dow Corning 556	2.80
12	Dow Corning 1401	3.30
13	TiO ₂ pigment	2.30
14	Pigment 1	8.20

Substances 8 - 10 are mixed together, and substances 13 and 14 are dispersed in that mixture. The resulting paste is then passed several times through a triple roller. In the meantime, substances 1 - 6 are melted and stirred together homogeneously, and then substances 7, 11 and 12 are stirred in.

The two mixtures are then mixed together while hot until homogeneous distribution is achieved. The hot mass is then poured into a lipstick mould and allowed to cool. There are obtained lipsticks having an intense bright red colour of outstanding fastness to light and very good gloss.

Example 15: A water-in-oil lipstick emulsion having the following composition is prepared analogously to Example 14:

Number	Ingredients	Amount [%]
1	mineral oil	20.00
2	glycerol bis(2-heptylundecanoate)	20.00
3	Pigment 1	9.20
4	polyethylene wax	7.00
5	candelilla wax	7.00
6	ceresin wax	4.00
7	water	3.00
8	glycerol	2.00
9	carnauba wax	1.00
10	castor oil	1.00
11	magnesium aluminium silicate	0.15
12	benzyl dimethyl stearyl ammonium chloride	0.05
13	hydrogenated lecithin	0.05

There are obtained lipsticks having an intense bright red colour of outstanding fastness to light and very good gloss.

Example 16: An oil-in-water lipstick emulsion having the following composition is prepared analogously to Example 14:

5

Number	Ingredients	Amount [%]
1	glycerol tri-2-ethylhexanoate	31.80
2	jojoba oil	20.00
3	ceresin wax	10.00
4	castor oil	10.00
5	Pigment 1	10.00
6	lanolin oil	5.00
7	water	5.00
8	microcrystalline wax	3.00
9	canauba wax	2.00
10	surface-active substances based on alkyl ethers	2.00
11	glycerol	1.00
12	polyvinyl alcohol	0.20

There are obtained lipsticks having an intense bright red colour of outstanding fastness to light and very good gloss.

10 **Example 17:** A non-greasy lipstick having the following composition is prepared analogously to Example 14:

Number	Ingredients	Amount [%]
1	white beeswax	20.00
2	ozocerite	10.00
3	Pigment 1	9.00

Number	Ingredients	Amount [%]
10	CI Pigment Blue 15	1.00
11	castor oil	40.50

There are obtained lipsticks having an intense bright red colour of outstanding fastness to light and very good gloss.

- 5 Example 18: A transfer-resistant lipstick having the following composition is prepared analogously to Example 14:

Number	Ingredients	Amount [%]
1	cyclomethicone	41.70
2	isodecane	10.00
3	Pigment 1	8.00
4	synthetic wax	6.00
5	isostearyltrimethylpropane-siloxy silicate	5.00
6	cetyl stearate/acetylated lanolin, 90:10	5.00
7	ceresin	4.00
8	paraffin	3.00
9	TiO ₂ pigment	2.00
10	methylparaben	0.30
11	propylparaben	0.10

There are obtained lipsticks having an intense bright red colour of outstanding fastness to light and very good gloss.

10

Example 19: Liquid Make-up Formulation

Number	Ingredients	Amount [%]
1	Deionized Water	50.46
2	Magnesium Aluminum Silicate	2.06
3	Carboxy Methyl Cellulose	0.1
4	Lecithin	0.10
5	Methyl Paraben	0.31
6	Imidazolidinyl Urea	0.52
7	Butylene Glycol	5.16

Number	Ingredients	Amount [%]
8	Triethanolamine 99%	2.06
9	Kaolin	2.06
10	TiO ₂ pigment	7.73
11	Yellow Iron Oxide	5.46
12	Pigment 1	1.55
13	Black Iron Oxide	0.46
14	Alpine Talc 141	2.06
15	Stearic Acid	6.19
16	Glyceryl Monostearate Pure	2.58
17	Isopropyl Lanolate	2.06
18	Lanolin Alcohol	0.21
19	Mineral Oil	8.25
20	Propyl Paraben	0.10
21	Makeup Fragrance	0.52

Ingredients 1 – 4 are mixed and the ingredients 5 – 14 are added to the phase and the composition is mixed until completely uniform. The mixture is milled using either a colloid mill or ball mill. This composition is mixed at a temperature of about 75°C.

- 5 Ingredients 15 – 20 are mixed and heated up to 75°C. Afterwards the oil phase is slowly added to the water phase with continuous mixing. After cooling to 50°C ingredient 21 is added and the composition is mixed until completely uniform.

A liquid make-up formulation having excellent in-use properties is obtained in that manner.

10 Example 20: Make-up Formulation

Number	Ingredients	Amount [%]
1	Deionized Water	61.21
2	Butylene Glycol	8.00
3	Xanthan Gum	0.34
4	Magnesium Aluminum Silicate	0.51

Number	Ingredients	Amount [%]
11	Yellow Iron Oxide	0.90
12	Black Iron Oxide	0.05
13	Cetyl Ethylhexanoate	3.54
14	Decyl Oleate	3.54
15	C ₁₂₋₁₅ Alkyl Benzoate	2.53
16	Stearic Acid	3.54
17	Isostearic Acid	1.01
18	Cetyl Alcohol	0.51
19	Caprylic/Capric Triglyceride	1.01
20	Propyl Paraben	0.15
21	BHT	0.05
22	Dimethicone	3.50

Ingredients 1 – 4 are mixed and the ingredients 5 – 12 are added to the phase and the composition is mixed until completely uniform. The mixture is milled using either a colloid mill or ball mill. This composition is mixed at a temperature of about 75°C.

- 5 Ingredients 13 – 22 are mixed and heated up to 75°C. Afterwards the oil phase is slowly added to the water phase with continuous mixing.

A make-up formulation having excellent in-use properties is obtained in that manner.

Example 21: A make-up stick having excellent in-use properties has the following composition:

10

Number	Ingredients	Amount [%]
1	mineral oil and lanolin alcohol	22.50
2	Laneth-5	15.00
3	TiO ₂ pigment	11.00
4	cetyl alcohol	5.00
5	carnauba wax	4.50
6	Pigment 1	4.00
7	yellow iron oxide	4.00
8	candilla wax	0.50
9	perfume and preservative	qs
10	oleyl alcohol	to 100

Example 22: A blusher (powder) having excellent in-use properties has the following composition:

Number	Ingredients	Amount [%]
1	talcum	58.00
2	zinc stearate	15.00
3	rice starch	15.00
4	Pigment 1	12.00
5	perfume	q.s.

Example 23: The following substances are used for a nail varnish:

Number	Ingredients	Amount [%]
1	sodium selenite	0.01
2	ethyl acetate	20.00
3	isobutyl acetate	26.99
4	isopropyl alcohol	2.00
5	toluene	20.00
6	nitrocellulose	17.00
7	saccharose acetate isobutyrate	8.00
8	dibutyl phthalate	3.80
9	1,3-butylene glycol	0.20
10	Pigment 1	1.00
11	stearylalkonium hectorite	1.00

5

A red nail varnish having very good in-use properties and outstanding gloss is obtained. After application of the nail varnish, a waiting period of three days and removal of the nail varnish, it is found that the nail has remained completely unstained.

10 **Example 24:** The following substances are used for a water-based nail varnish:

Number	Ingredients	Amount [%]
1	water	50.00
2	acrylic acid	10.00
3	acrylic acid	10.00
4	acrylic acid	10.00
5	acrylic acid	10.00
6	acrylic acid	10.00
7	acrylic acid	10.00
8	acrylic acid	10.00
9	acrylic acid	10.00
10	acrylic acid	10.00
11	acrylic acid	10.00
12	acrylic acid	10.00
13	acrylic acid	10.00
14	acrylic acid	10.00
15	acrylic acid	10.00
16	acrylic acid	10.00
17	acrylic acid	10.00
18	acrylic acid	10.00
19	acrylic acid	10.00
20	acrylic acid	10.00
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26	acrylic acid	10.00
27	acrylic acid	10.00
28	acrylic acid	10.00
29	acrylic acid	10.00
30	acrylic acid	10.00
31	acrylic acid	10.00
32	acrylic acid	10.00
33	acrylic acid	10.00
34	acrylic acid	10.00
35	acrylic acid	10.00
36	acrylic acid	10.00
37	acrylic acid	10.00
38	acrylic acid	10.00
39	acrylic acid	10.00
40	acrylic acid	10.00
41	acrylic acid	10.00
42	acrylic acid	10.00
43	acrylic acid	10.00
44	acrylic acid	10.00
45	acrylic acid	10.00
46	acrylic acid	10.00
47	acrylic acid	10.00
48	acrylic acid	10.00
49	acrylic acid	10.00
50	acrylic acid	10.00

Number	Ingredients	Amount [%]
5	potassium cetyl phosphate	1.50
6	propylene glycol	8.00
7	Mg-Al silicate	1.00
8	cellulose gum (high viscosity)	0.14
9	ester of saccharose and coconut fatty acid	0.20
10	methylparaben	0.20
11	EDTA	0.05
12	propylene glycol dicaprylate/dicaprate	10.00
13	isostearyl-stearyl stearate	2.00
14	sorbitan monolaurate	3.0
15	cetyl alcohol	0.5
16	propylparaben	0.10
17	DMDM-hydantoin	0.18

A red nail varnish having very good in-use properties and outstanding gloss is obtained. After application of the nail varnish, a waiting period of three days and removal of the nail varnish, it is found that the nail has remained completely unstained.

5

Example 25: The following substances are used for a mascara formulation:

Number	Ingredients	Amount [%]
1	stearic acid	3.50
2	glycerol stearate	6.00
3	beeswax	7.00
4	propylparaben	0.10
5	dematerialized water	38.25
6	methylparaben	0.10
7	polyvinylpyrrolidone	6.00
8	propylene glycol	3.00
9	sodium carboxymethylcellulose	0.15
10	pigment 1	10.40
11	kaolin	3.50
12	ethyl acrylate/methyl acrylate (8/2)	22.00

Mixtures of substances 1 to 4 and 5 to 9 are heated separately from one another until homogeneous mixtures are formed; the mixtures are then combined and stirred thoroughly until a homogeneous phase is obtained. Components 10 and 11 are then dispersed in a portion of that phase, and the dispersion is then added to the remainder. Component 12 is then added with stirring.

A mascara formulation having excellent in-use properties is obtained in that manner.

Example 26: A mascara formulation for hair is prepared from the following components:

Number	Ingredients	Amount [%]
1	mascara base (mixture of beeswax, carnauba wax, stearic acid, Cetareth 25, PEG-2 stearate, mineral oil, hydrogenated coconut oil and cetyl alcohol)	15.00
2	dimethicone	1.50
3	preservative	0.50
4	dematerialized water	42.10
5	triethanolamine 85 %	0.45
6	thickener mixture (xanthan gum, hectorite, cellulose gum)	0.45
7	pigment 1	10.00
8	acrylate copolymer	30.00

Ingredients 1 are heated to approximately 75°C, with slow stirring, in a steel tank. In a separate vessel, ingredient 3 is dissolved in ingredient 4, and ingredient 6 is added in such a manner as to obtain a gel that is homogeneous at room temperature. Ingredients 2 and 5 are then added, and heating to approximately 75°C is carried out. With moderate stirring, the mixture of ingredients 2, 3, 4, 5 and 6 is added to ingredient 1, and stirring is carried out until the product is homogeneous. Ingredient 7 is dispersed in a portion of that product by means of a three-roll mill, ingredient 8 is added with stirring, and the dispersion is then added to the remainder of the product and mixed thoroughly.

~~A mascara formulation for hair having good in-use properties is obtained.~~

Example 27: A water-in-oil mascara having excellent in-use properties has the following composition:

Number	Ingredients	Amount [%]
1	polyisobutylene	57.60
2	microcrystalline wax	20.00
3	Pigment 1	10.00
4	carnauba wax	7.00
5	bentonite	3.00
6	beeswax	2.00
7	lanolin	0.40

Example 28: A hair mascara having the following composition is prepared analogously to

5 **Example 26:**

Number	Ingredients	Amount [%]
1	Pigment 1	12.00
2	white beeswax	6.50
3	propylene glycol	6.00
4	carnauba wax	4.25
5	cetearyl alcohol and dicetyl phosphate and ceteth-10 phosphate (Crodafos CES)	4.00
6	PVP/hydrolysed wheat protein copolymer	4.00
7	Steareth-10	1.00
8	stearyl alcohol	1.00
9	PVP	1.00
10	Steareth-2	0.50
11	Laneth-5	0.50
12	potassium hydroxide	0.24
13	hydroxyethylcellulose	0.10
14	di-Na-EDTA	0.10
15	preservative	qs
16	water	to 100

A mascara formulation for hair having good in-use properties is obtained.

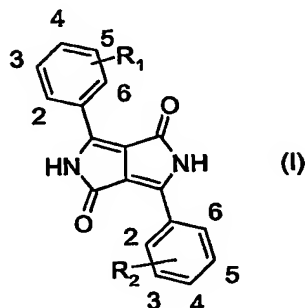
Example 29: A foundation cream having excellent in-use properties has the following composition:

Number	Ingredients	Amount [%]
1	TiO ₂ pigment	12.79
2	oleyl alcohol	4.57
3	glycerol stearate	3.65
4	propylene glycol	3.65
5	stearic acid	1.83
6	magnesium aluminium silicate	0.91
7	triethanolamine 99 %	0.91
8	CI Iron Oxide Yellow	0.64
9	Pigment 1	0.42
10	CI Pigment Brown 6	0.37
11	carboxymethylcellulose	0.10
12	water	to 100

5 In every formulation Example 1 – 29, Pigment 1 can be replaced by any of the pigments 2 – 52, as well as by mixtures of pigments 1 – 52 as well as by mixtures of pigments 1 – 52 with one or more other suitable pigments as described above.

CLAIMS

1. A cosmetic formulation comprising at least one pigment of formula (I)



5 wherein

R_1 signifies hydrogen; SO_3M ; linear or branched C_1 - C_{18} alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; halogen; phenyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ,

R_2 signifies hydrogen; SO_3M ; linear or branched C_1 - C_{18} alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; linear or branched C_1 - C_4 alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M ; halogen; phenyl, which is substituted by one or more halogen, OH, OR_3 , SR_3 , $SO_2NR_3R_4$, NH_2 , NR_3R_4 , $COOR_3$, $CONR_3R_4$, $OCOR_3$ or SO_3M , wherein

R_3 signifies linear or branched C_1 - C_{30} alkyl; C_3 - C_{30} -alkenyl; C_3 - C_{12} cycloalkyl; C_6 - C_{14} aryl, which can be unsubstituted or substituted by one or more C_1 - C_6 alkyl, C_5 - C_6 cycloalkyl, C_1 - C_6 alkoxy, C_1 - C_6 thioalkyl or halogen; C_7 - C_{24} aralkyl, which can be unsubstituted or substituted by one or more C_1 - C_6 alkyl, C_5 - C_6 cycloalkyl, C_1 - C_6 alkoxy, C_1 - C_6 thioalkyl or halogen or C_8 - C_{24} aralkenyl, which can be unsubstituted or substituted by one or more C_1 - C_6 alkyl, C_5 - C_6 cycloalkyl, C_1 - C_6 alkoxy, C_1 - C_6 thioalkyl or halogen; or C_1 - C_4 alkylene- C_4 - C_8 cycloalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S,

R_4 signifies hydrogen; linear or branched C_1 - C_{30} alkyl; C_3 - C_{30} -alkenyl; C_3 - C_{12} cycloalkyl; C_6 - C_{14} aryl, which can be unsubstituted or substituted by one or

5

10

(i) R_1 is H or Cl in 4 position, then R_2 is not H or Cl in 4 position.

15

3. A cosmetic formulation according to Claim 1, wherein the pigments have a specific surface area (BET) of 15 – 170m²/g, preferably of 15 – 150m²/g.

20

5. A cosmetic formulation according to Claim 1, wherein the pigments have a specific surface area (BET) of 25 – 170m²/g, preferably of 25 – 150m²/g.

25

1. The first step is to identify the problem. This involves understanding the current situation and what needs to be improved.

R₂ signifies hydrogen; linear or branched C₁-C₁₂alkyl, which can be unsubstituted or substituted by one or more halogen, OH, OR₃, SR₃, SO₂NR₃R₄, NH₂, NR₃R₄, COOR₃, CONR₃R₄, OCOR₃ or SO₃M; linear or branched C₁-C₄alkoxy, which can be unsubstituted or substituted by one or more halogen, OH, OR₃, SR₃, SO₂NR₃R₄, NH₂, NR₃R₄, COOR₃, CONR₃R₄, OCOR₃ or SO₃M; halogen; phenyl, which is substituted by one or more halogen, OH, OR₃, SR₃, NH₂, NR₃R₄, COOR₃, CONR₃R₄, OCOR₃ or SO₃M, wherein R₃, R₄ and M have the same meanings as defined above.

8. A cosmetic formulation according to Claim 7 or 8, wherein

R₃ signifies linear or branched C₁-C₁₈alkyl; C₃-C₁₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₈aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₈aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cycloalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S,

R₄ signifies hydrogen; linear or branched C₁-C₁₈alkyl; C₃-C₁₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₈aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₈aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; or C₁-C₄alkylene-C₄-C₈cycloalkyl, wherein the ring contains at least one heteroatom selected from the group of N, O or S, and

M signifies hydrogen; a metal atom; or an unsubstituted or substituted ammonium group.

9. A cosmetic formulation according to any one of Claims 1 – 5, wherein

R₁ signifies hydrogen; linear or branched C₁-C₆alkyl, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; linear or branched C₁-C₄alkoxy, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; halogen; phenyl, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃,

R₂ signifies hydrogen; linear or branched C₁-C₆alkyl, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; linear or branched C₁-C₄alkoxy, which can be unsubstituted or substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃; halogen; phenyl, which is substituted by one or more OR₃, SR₃, SO₂NR₃R₄, NR₃R₄ or COOR₃,

wherein

R₃ signifies linear or branched C₁-C₈alkyl; C₃-C₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₂aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₂aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₁-C₄alkylene-morpholino; or C₁-C₄alkylene-piperidino and

R₄ signifies hydrogen; linear or branched C₁-C₈alkyl; C₃-C₈-alkenyl; C₃-C₈cycloalkyl; C₆-C₈aryl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₇-C₁₂aralkyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen or C₈-C₁₂aralkenyl, which can be unsubstituted or substituted by one or more C₁-C₄alkyl, C₅-C₆cycloalkyl, C₁-C₄alkoxy, C₁-C₄thioalkyl or halogen; C₁-C₄alkylene-morpholino; or C₁-C₄alkylene-piperidino.

10. A cosmetic formulation according to any of Claims 1 – 9 comprising

a) from 0.0001 to 50 %, preferably from 0.0001 to 25 %, based on the total weight of the preparation, of at least one pigment of formula (I), and

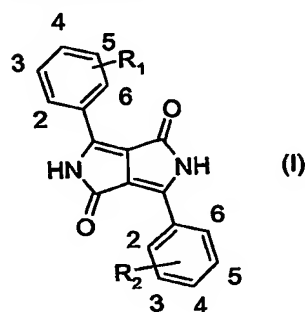
b) from 50 to 99.9999 %, preferably from 0.0001 to 20 %, based on the total weight of the preparation, of a cosmetically suitable carrier.

11. A cosmetic preparation or formulation according to any one of claims 1 to 10, which is in the form of a stick comprising up to 99.9 % by weight of said cosmetic carrier.

- 5
13. A cosmetic preparation or formulation according to any one of claims 1 to 10, which is in the form of a water-in-oil emulsion or in the form of an oil-in-water emulsion comprising from 1 to 98.8 % by weight of the fatty phase, from 1 to 98.8 % by weight of the aqueous phase and from 0.2 to 30 % by weight of an emulsifier, in each case based on the total weight.
- 10
14. A cosmetic preparation or formulation according to any one of claims 1 to 10, which is in the form of a powder and comprises an inorganic or organic filler, such as talc, zinc stearate, mica, kaolin, nylon powders, polyethylene powders, Teflon, starch, boron nitride, microspheres of copolymers, such as Expancel, Polytrap, silicone resin microbeads, polyethylene powder or polyamide powder, as well as adjuvants, such as binders or colourants.
- 15
15. A cosmetic preparation or formulation according to any one of claims 1 to 10, which is in the form of a nail varnish and comprises from 0.1 to 5 % by weight of the pigment in a varnish base.
- 20
16. A cosmetic preparation or formulation according to any one of claims 1 to 10, which is in the form of a shampoo, a cream or a gel for colouring the hair that is composed of the basic substances conventionally employed in the cosmetics industry.
- 25
17. A cosmetic preparation or formulation according to any one of claims 1 to 16, which additionally comprises conventional cosmetic constituents, such as perfumes, antioxidants, preservatives and UV filters.

Abstract

The present invention relates to cosmetic formulations comprising at least one pigment of formula (I)



wherein all substituents have the meanings as defined in the claims, and
 wherein the pigments have a specific surface area (BET) of 15 – 200m²/g,
 as well as to compositions for making up the skin, both of the face and of the human body,
 keratinous fibers or superficial body growths, such as the nails, eyelashes, eyebrows or hair,
 and the lips.

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